



# Lower Colorado River Multi-Species Conservation Program

*Balancing Resource Use and Conservation*

## Hunters Hole

## Fiscal Year 2013 Annual Report



**June 2018**

Work conducted under LCR MSCP Work Task E31

# **Lower Colorado River Multi-Species Conservation Program Steering Committee Members**

## **Federal Participant Group**

Bureau of Reclamation  
U.S. Fish and Wildlife Service  
National Park Service  
Bureau of Land Management  
Bureau of Indian Affairs  
Western Area Power Administration

## **Arizona Participant Group**

Arizona Department of Water Resources  
Arizona Electric Power Cooperative, Inc.  
Arizona Game and Fish Department  
Arizona Power Authority  
Central Arizona Water Conservation District  
Cibola Valley Irrigation and Drainage District  
City of Bullhead City  
City of Lake Havasu City  
City of Mesa  
City of Somerton  
City of Yuma  
Electrical District No. 3, Pinal County, Arizona  
Golden Shores Water Conservation District  
Mohave County Water Authority  
Mohave Valley Irrigation and Drainage District  
Mohave Water Conservation District  
North Gila Valley Irrigation and Drainage District  
Town of Fredonia  
Town of Thatcher  
Town of Wickenburg  
Salt River Project Agricultural Improvement and Power District  
Unit "B" Irrigation and Drainage District  
Wellton-Mohawk Irrigation and Drainage District  
Yuma County Water Users' Association  
Yuma Irrigation District  
Yuma Mesa Irrigation and Drainage District

## **Other Interested Parties Participant Group**

QuadState Local Governments Authority  
Desert Wildlife Unlimited

## **California Participant Group**

California Department of Fish and Wildlife  
City of Needles  
Coachella Valley Water District  
Colorado River Board of California  
Bard Water District  
Imperial Irrigation District  
Los Angeles Department of Water and Power  
Palo Verde Irrigation District  
San Diego County Water Authority  
Southern California Edison Company  
Southern California Public Power Authority  
The Metropolitan Water District of Southern California

## **Nevada Participant Group**

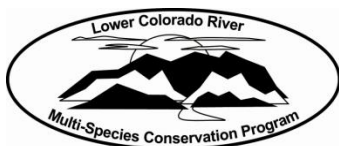
Colorado River Commission of Nevada  
Nevada Department of Wildlife  
Southern Nevada Water Authority  
Colorado River Commission Power Users  
Basic Water Company

## **Native American Participant Group**

Hualapai Tribe  
Colorado River Indian Tribes  
Chemehuevi Indian Tribe

## **Conservation Participant Group**

Ducks Unlimited  
Lower Colorado River RC&D Area, Inc.  
The Nature Conservancy



# **Lower Colorado River Multi-Species Conservation Program**

## **Hunters Hole**

## **Fiscal Year 2013 Annual Report**

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Multi-Species Conservation Program  
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# ACRONYMS AND ABBREVIATIONS

AWPF	Arizona Water Protection Fund
FY	fiscal year
LCR MSCP	Lower Colorado River Multi-Species Conservation Program
Reclamation	Bureau of Reclamation

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# 1.0 INTRODUCTION

The purpose of this annual report is to summarize all activities, including planning, design, construction, restoration, monitoring, and adaptive management that have occurred at Hunters Hole from October 1, 2012, through September 30, 2013, which is federal fiscal year (FY) 2013. Water usage is presented as a calendar year, January 1, 2013, through December 31, 2013, consistent with water accounting reporting.

## 1.1 Background

Hunters Hole, 44 acres in size, is located in Arizona just south of Yuma and north of San Luis. In the 1950s, flood events formed a series of interconnected ponds with adjacent marsh areas and Fremont cottonwood-Goodding's willow (*Populus fremontii-Salix gooddingii*) (hereafter cottonwood-willow) stands. Water levels were subsequently maintained by groundwater, irrigation drain flows, and a connecting channel to the main river channel. Over time, the habitat became degraded due to reduced flows, which isolated the area from the mainstem of the river. Most of the habitat was eventually lost due to declining groundwater water levels and wildfires.

In 2001, local officials from State, Tribal, and Federal agencies worked together to develop a plan to restore wildlife habitat in the area, as well as increase public safety and border security. The restoration concept, including site drawings and the implementation schedule, were reviewed with the United States Border Patrol to ensure compatibility with international border security concerns.

In 2010, the Yuma Crossing National Heritage Area Corporation, a 501(c)3 non-profit organization, restored 44 acres at Hunters Hole. The Arizona Water Protection Fund (AWPF), in cooperation with the Lower Colorado River Multi-Species Conservation Program, funded the Hunters Hole restoration project. The AWPF-provided funding was used to clear non-native vegetation and to contour the site. The LCR MSCP provided funding for rehabilitation of the existing groundwater well and fabrication of the irrigation system manifold to allow for automation in the future. The restored site consisted of riparian and dry upland habitats. Restoration activities included selective clearing of invasive giant reeds (*Arundo donax*), common reeds (*Phragmites australis*) and saltcedar (*Tamarix* spp.), installation of infrastructure to allow for managed flooding, and the planting of cottonwood-willow and honey mesquite (*Prosopis glandulosa*).

After the project was completed in 2013, the LCR MSCP agreed to manage the site as a conservation area and provide funding for its long-term operation and maintenance. The LCR MSCP is responsible for the long-term maintenance costs of this conservation area through 2055 (the life of the program).

## **2.0 CONSERVATION AREA INFORMATION**

### **2.1 Purpose**

The purpose of Hunters Hole is to create 44 acres of riparian habitat that will be managed for the southwestern willow flycatcher (*Empidonax traillii extimus*) and other LCR MSCP covered species that utilize the cottonwood-willow and honey mesquite land cover types.

### **2.2 Location**

Hunters Hole is located in Arizona in Reach 7 of the LCR MSCP planning area at River Mile 3 (figure 1). The total project footprint is 44 contiguous acres (figure 2).

### **2.3 Land Ownership**

Hunters Hole is owned and managed by the Bureau of Reclamation (Reclamation) and is on Reclamation withdrawn lands.

### **2.4 Water**

Hunters Hole does not have a Colorado River water entitlement. The AWPf, in concert with the Arizona Water Resources Department, governs the use of Arizona State groundwater. When Hunters Hole was approved for development, up to 3,000 acre-feet of water was allocated for irrigation of native habitat. Irrigation water is pumped from the existing groundwater well; a flow meter was installed to track usage.

### **2.5 Agreements**

Hunters Hole is located on lands owned and managed by Reclamation; therefore, no agreements with other parties have been signed.

### **2.6 Public Use**

Hunters Hole is open to the public; however, activities may be restricted depending on safety concerns.

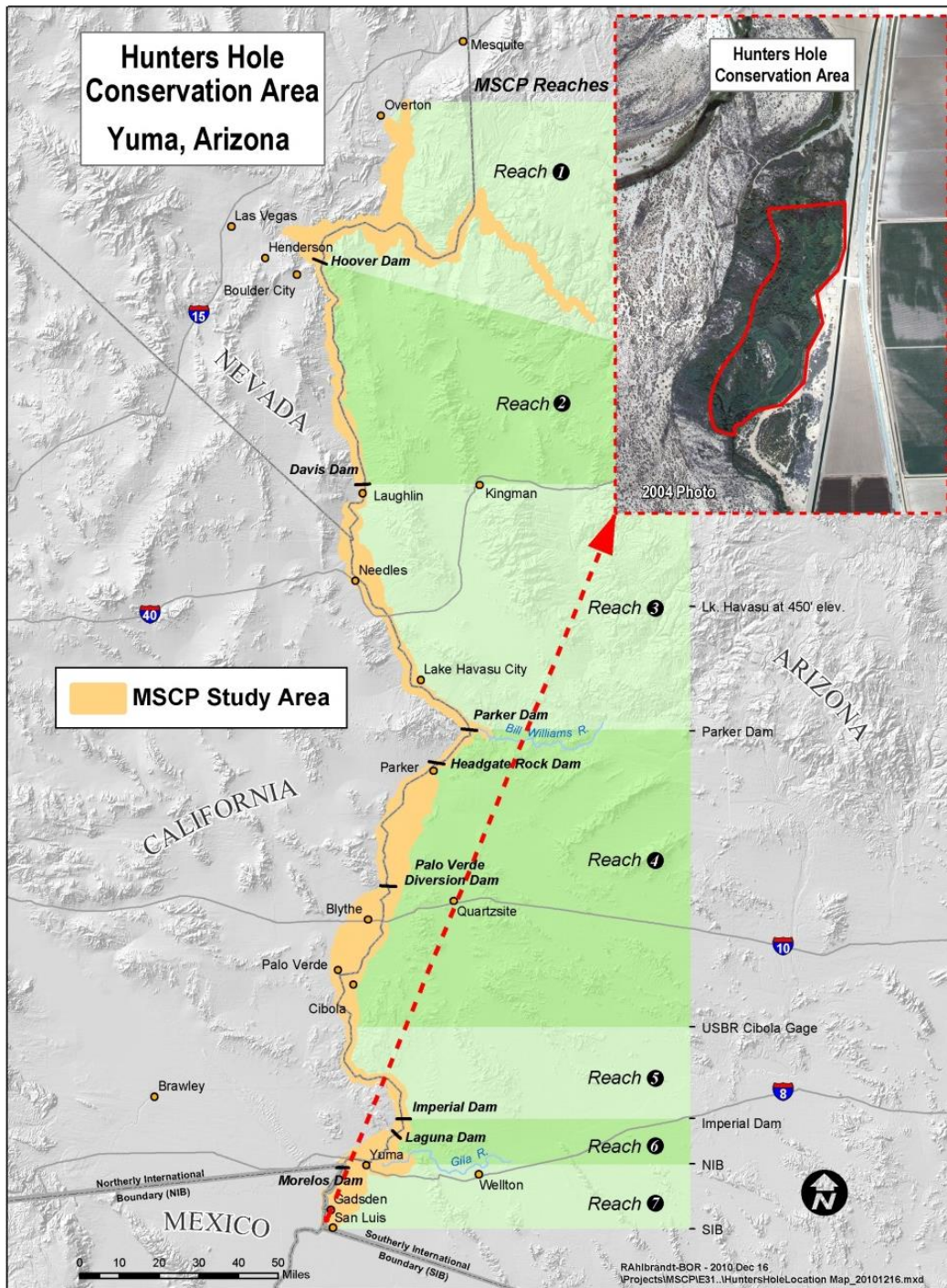


Figure 1.—LCR MSCP planning area with Hunters Hole inset.

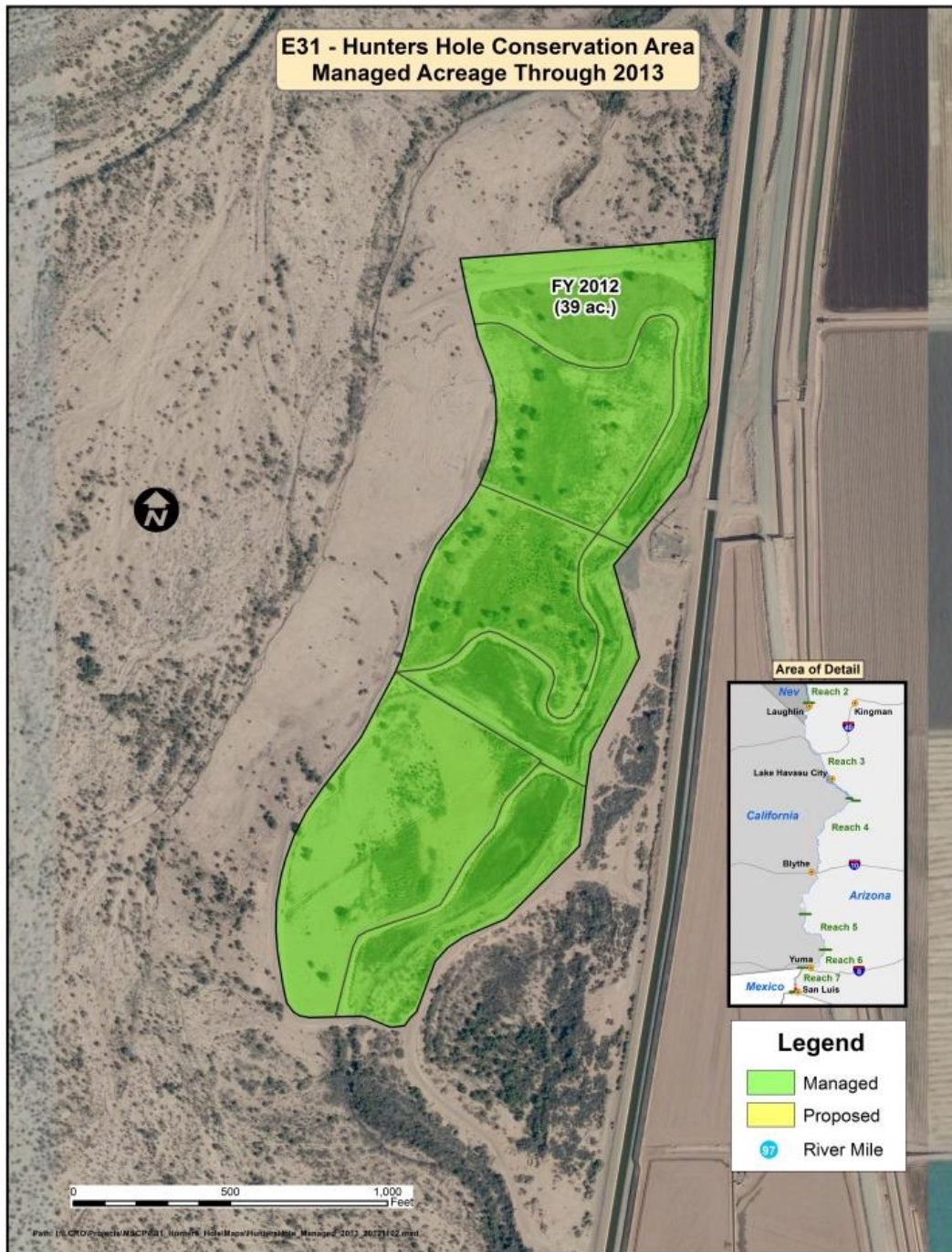


Figure 2.—Hunters Hole managed acreage map.

## **2.7 Law Enforcement**

The United States Border Patrol is responsible for all law enforcement at Hunters Hole due to its location along the U.S. border security fence near the international boundary between Arizona and Mexico. Reclamation continues to work with the patrol regarding security issues and notifies them by phone prior to each site visit using an established visitation protocol.

## **2.8 Wildfire Management**

Federal, State, and local fire agencies, either by existing management agreements or mutual aid agreements, will provide wildland fire suppression, incident dispatch, fire investigation, and potential fire restrictions. The full range of suppression strategies is available to managers provided that selected options do not compromise firefighter or public safety, are cost effective, consider the benefits of suppression and the values to be protected, and are consistent with resource objectives (LCR MSCP 2010). Reclamation may assist the Bureau of Land Management with fire suppression by activating the electrical groundwater pump located within the security fencing enclosure. The pump can be turned on remotely from Reclamation's Yuma Area Office, or manually onsite, to flood each irrigation cell (1–5) using separate valves for each cell.

## **3.0 HABITAT DEVELOPMENT AND MANAGEMENT**

### **3.1 Planting**

No additional habitat development was conducted in FY13.

### **3.2 Irrigation**

Irrigation water is pumped using a 100-horsepower electric motor coupled to a groundwater pump. After reaching the surface, irrigation water is routed through an irrigation manifold that delivers water to the five habitat cells. The year 2012 was the first growing season for Hunters Hole. The irrigation schedule was refined in 2013. During FY13, the site was irrigated biweekly in spring and fall, irrigated weekly during summer, and irrigated two times per month during winter (November – February).

### **3.3 Site Management**

Maintenance activities can be separated into two categories: infrastructure maintenance and habitat maintenance. Infrastructure maintenance includes maintenance of roads, groundwater pumps, outfall structures, and water control valves used to operate and maintain the conservation area. Habitat maintenance includes manual weeding of invasive species and application of herbicides as necessary.

## **4.0 MONITORING**

### **4.1 Avian Monitoring**

Avian monitoring in FY14 consisted of surveys for riparian breeding birds.

#### **4.1.1 General Avian Surveys**

Bird surveys were conducted in order to detect breeding LCR MSCP riparian bird species and other territorial riparian bird species. Surveys were conducted within areas of cottonwood-willow and honey mesquite land cover types that were of adequate growth to support breeding birds. No LCR MSCP species were observed (Fred Phillips Consulting 2014). Riparian and wetland restoration at Hunters Hole was completed in spring 2012, and the habitats are still immature.

### **4.2 Small Mammal Monitoring**

#### **4.2.1 Rodent Monitoring**

Live trapping was conducted in the fall and spring of FY13 in order to detect the presence of Yuma hispid cotton rats (*Sigmodon hispidus eremicus*). Sixty traps were set out in transects in Cells 2 and 3 for 1 night each season. No LCR MSCP species were captured in FY13 (Hill and Calvert 2016).

## **5.0 HABITAT CREATION AND CONSERVATION MEASURE ACCOMPLISHMENT**

### **5.1 Vegetation Monitoring**

Vegetation measurements were collected using remote sensing and ArcGIS techniques to evaluate the vegetation structure from the ground layer to the upper canopy layer. Parameters included tree and shrub density, tree heights, and canopy closure.

## **5.2 Evaluation of Conservation Area Habitat**

The process for habitat creation conservation measure accomplishment was finalized in October 2011 (LCR MSCP 2011). All areas within Hunters Hole were designed to benefit covered species at the landscape level.

To meet species habitat creation requirements, the Habitat Conservation Plan provides goals for habitat creation based on land cover types. These land cover types are described using the Anderson and Ohmart vegetation classification system (Anderson et al. 1976, 1984a, 1984b). In 2013, there were no species with creditable acres at Hunters Hole.

## **6.0 ADAPTIVE MANAGEMENT RECOMMENDATIONS**

Adaptive management relies on the initial receipt of new information, the analysis of that information, and the incorporation of the new information into the design and/or direction of future project work (LCR MSCP 2007). Under the Adaptive Management Program, habitat creation sites will be assessed for biological effectiveness and whether they fulfill the conservation measures outlined in the Habitat Conservation Plan for 27 covered species and if they potentially benefit 5 evaluation species. Post-development monitoring and species research results will be used to adaptively manage habitat creation sites after initial implementation. Once monitoring data are collected over a few years, and then analyzed for Hunters Hole, recommendations may be made through the adaptive management process for site improvements in the future. At this time, there are no adaptive management recommendations for Hunters Hole.

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